

PRESQUILE

NARRATIVE REPORT

JANUARY - DECEMBER 1965

PRESQUILE NATIONAL WILDLIFE REFUGE
NARRATIVE REPORT
FOR CALENDAR YEAR 1965

PERSONNEL

REFUGE MANAGER

EARL R. CUNNINGHAM (1)

REFUGE AID

JAMES J. PARLOW (2)

MAINTENANCEMAN

RAYMOND P. MCFARLAND (3)

CLERK-TYPIST (INTERMITTENT)

IRENE S. LIPCHAK

(1) E.O.D. OCTOBER 25, 1965, REPLACING JAMES H. ROBERTS

(2) RESIGNED OCTOBER 21, 1965

(3) PROMOTED TO GS-5, BIOLOGICAL TECHNICIAN, DECEMBER 5, 1965

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I. GENERAL

A. Weather Conditions

The data in the following table were provided by the Old Dominion Water Company in Hopewell, Virginia and are applicable to Presquille Refuge.

<u>Precipitation</u> (In inches-includes snow melt)			<u>Temperature</u>		
	<u>1965</u>	<u>Normal</u>	<u>Snow</u> (Inches)	<u>Max.</u>	<u>Min.</u>
January	1.70	3.64	15.2	70	8
February	1.89	2.75	5.5	74	6
March	4.25	3.42		73	20
April	2.07	3.23		86	26
May	.85	4.01		95	45
June	4.40	4.41		95	46
July	3.56	3.23		96	54
August	1.34	3.23		98	47
September	2.06	3.57		90	47
October	1.12	2.55		81	27
November	.51	2.02		79	19
December	.60	3.50		73	18
Totals	<u>24.35</u>	<u>41.01</u>	<u>20.7</u>		

The year 1965 was categorically dry with only 24.35 inches of precipitation recorded as compared with the normal 41.01 inches. This deficiency of 16.66 inches has resulted in marked drought conditions throughout the latter half of the year.

January, February, and March were relatively mild months. Although more than 20 inches of snow fell, consistently warm afternoon temperatures usually melted it rather soon.

April was colder than usual and spring was some three weeks late in making its debut.

May and June were mild and dry but July brought much needed precipitation with normal temperatures.

The fall was balmy and mild throughout December but extremely dry.

B. Habitat Conditions

1. Water

The normal water levels in the James River have been consistently six to ten inches lower than normal throughout the latter half of the year. Strong east and south-east winds however, cause the tides to fluctuate as much as a foot. So although the water has been low, the influence of intermittent east and south-east winds has provided ample flooding of the north and east marshes to permit good growth of aquatics.

The impeded flow of fresh water has, however, permitted the influx of salt water and as a result, the content of salt in the James at Hopewell has almost doubled since last year.

The following table bears this out.

<u>Parts NACL per million parts H₂O</u>		
(Each entry represents the high reading for the respective month)		
<u>Month</u>	<u>1964</u>	<u>1965</u>
January	6	8
February	3	8
March	9	10
April	14	14
May	12	16
June	13	20
July	18	24
August	18	28
September	18	32
October	13	42
November	12	40
December	12	42

2. Food and Cover

In spite of the drought, refuge crops have been fair to good. Buck-wheat made good seed heads but it was practically dried up before the waterfowl arrived. Corn was slow starting but a few late summer rains enabled it to grow out successfully into an excellent stand. Winter wheat got off to a good start, but the fall drought has brought its growth to a dead stop. Heavy goose utilization and the drought left the browse in poor condition as of the year end.

A "no corn manipulation" experiment has been in progress here since 1961. Geese utilized the standing corn very little until 1963 when some 24% of the crop was taken - the utilization evidenced mainly in hybrid dwarf strains. In 1964, all of 30 acres of dwarf corn was 50% utilized. Thus far utilization of the 1965 corn has been negligible.

This fact is significant since no dwarf corn was planted this year. If snow and deterioration do not bend and/or lower the tall stalks, it may well be that sufficient utilization of standing tall corn will not materialize.

The mast crop of water tupelo (*Nyssa aquatica*) is tremendous. While no duck crops have been examined to determine it, from the feeding habitat used by wood ducks, blacks and mallards in the wooded areas, it is almost certain that the tupelo is being taken to great extent.

II. WILDLIFE

A. Migratory Birds

Canada geese numbers are much the same as they have been for years with peaks ranging from 8000 to 9000. The bulk of the flock left the area in late March and early April and returned in late September, throughout October and peaked in November at 8600 birds. Some 120 Blues and 25 Snows are among the flock.

Duck numbers are down from last year some 25%. No explanation is offered for the variation in populations other than the scope of the reporting area. Thus far this winter only those ducks using the refuge and the immediate areas have been reported.

During the spring and summer twelve broods totaling some 60 young wood ducks were observed. Some 100 black ducks and an equal number of mallards were observed in July and August. None of the birds were handled but because of their appearance it was assumed that they were local birds. However, no nests were observed to substantiate the assumption.

During late spring and early summer more than 2000 mourning doves were reported on the refuge; of these nearly 600 were banded. Nesting was common, particularly in the spoils bank area.

At least 200 snipe frequent the east and north marshes in late winter each year.

B. Upland Game Birds

A static population of some 12 turkeys remains on the island. A flock of eight was observed on several occasions in the farm area and a small group of four to six were sighted regularly in the woods area near the mouth of Little Creek. The sex ratio appears to be about three males to two females.

At least three covies of bob-white quail are resident on the area. Lately they have been observed flying across the main channel of the James River, indicating that from time to time other covies may frequent the island.

C. Big Game Animals

Deer have reached the saturation point. One early evening count in late December revealed 125 animals in the farm area alone. Were it not for the refuge corn crop they would be forced to leave the island or face starvation, the latter alternative being more probable.

The fence which was erected to exclude the deer from the farm area is completely ineffective. The deer continually push holes in it and concentrate inside the fence. Then too, some five to eight animals become entangled in the fence annually. In total scope the fence does more harm than good and should be removed.

D. Fur Animals, Predators, Rodents and Other Mammals

The raccoon population is increasing rapidly. They are a definite hinderance to duck trapping, destroying many birds in the traps annually. It is probable that raccoons are also a significant limiting factor in wood duck production on the refuge.

E. Hawks, Owls, Eagles, Crows, etc.

Red tailed, red-shouldered, and marsh hawks have been observed regularly on the area. At least two sparrow hawks are present as of this writing.

At least four bald eagles, of which two are adults, have frequented the refuge during the winter periods. A nest has been located on the Shirley Plantation some five miles distant from the refuge. The status of the nest is unknown, but a local Audubon member has recently observed an adult bird sitting on the side of the nest on two occasions.

From their evening calls and occasional observations, it appears that the refuge is carrying nominal populations of great horned and barred owls.

Some 50 to 150 crows were present throughout the year.

F. Other Birds

During October and early November some 20,000 blackbirds frequented the refuge. The assortment was complete with redwings, purple grackles, starlings, and cow-birds.

G. Fish

Hot weather fish kills were evident again this year. The state Game and Fish Commission officials attribute the die-offs to an oxygen deficiency resulting from industrial pollution.

H. Reptiles

Except for various species of water-snakes, the refuge has no significant numbers of snakes.

I. Disease

Nothing to report.

III. REFUGE DEVELOPMENT AND MAINTENANCE

A. Physical Development

The most significant accomplishments of the year are as follows:

1. Pilings at the mainland ferry landing were replaced.
2. Quarters #1 was dismantled and removed.
3. Quarters #3 received interior paint throughout and a new heat system was installed.
4. Drain pipe was installed along the main road from the ferry landing to the crest of the rise.
5. Ferry slips were cleaned.
6. The ferry cable was exchanged three times.
7. The interior of the shop was sealed.

B. Plantings

1. Aquatics and Marsh Plants.

None.

2. Trees and Shrubs

None.

3. Upland Herbaceous Plants

None.

4. Cultivated Crops

Cultivated crops include 70 acres of Funk's G-72 Hybrid corn, 18 acres of Japanese Buckwheat, 80 acres of winter wheat, and 25 acres of common ryegrass. Ladino clover and Kentucky 31 fescue were over seeded on 35 acres of the spoils bank permanent pasture. Because of

the prevalent drought conditions neither the ryegrass, fescue, or clover made any significant growth.

C. Collections and Receipts

1. Seeds and Other Propagules

These quantities of seeds were purchased for refuge planting during the year:

Funk G-72 hybrid seed corn	12	bushels
Japanese Buckwheat	1200	lbs.
Annual Ryegrass	1250	"
Kentucky 31 Fescue	500	"
Ladino Clover	100	"

Three hundred five bushels of wheat were harvested on the refuge for planting winter browse.

D. Control of Vegetation

Mechanical control of Jimson weed and Johnson grass was attempted by periodic disking. The only chemical control executed was the treatment of 40 acres of corn with three lbs. of 80% commercial atrazine per acre. The cost was just over \$9.00 per acre and the treatment was 90% effective in control of Jimson weed and Johnson grass.

E. Planned Burning

None.

F. Fires

None.

IV. RESOURCE MANAGEMENT

A. Grazing

None.

B. Haying

None.

C. Fur Harvest

None.

D. Timber Removal

None.

E. Commercial Fishing

Several small individual commercial fisherman operate in the closed area of the James River around the refuge. Their operations are small and are primarily basket fishing for carp and catfish. No data are available as to the quantities of fish they take, but it is known that one of their markets is the fish pond stocking business.

F. Other Uses

Nothing to report.

V. FIELD INVESTIGATION AND APPLIED RESEARCH

A. Progress Report

Duck banding was suspended during December of 1964 and according to an administrative directive no banding was done prior to the close of the 1965 hunting season. Therefore, no ducks were banded at Presquile during the 1965 calendar year.

Canada geese were reluctant to go on the net sites so banding success for 1965 was far below 1964 with only 119 birds banded.

Refuge personnel banded 416 mourning doves and Agent Bain banded almost 200 on the refuge to bring the total doves banded in 1965 to about 600.

VI. PUBLIC RELATIONS

600
119
719

A. Recreational Use

Because of the access problem, Presquile's recreational use by the public is limited. Fishing, skiing, and boating around the island within the administratively closed area are permitted and many use days are noted although no data are available to indicate the extent of the usage.

Actual participation in recreational uses on the refuge proper were limited to tours and nature study. During the year five scout groups and one church group were given a tour of the refuge. More than 200 youngsters with their adult leaders saw waterfowl, deer, skunks, and wild turkeys, song birds - however, it seems that more enthusiasm was mustered for mammal bones and driftwood than for wildlife.

B. Refuge Visitors

Presquile had 16 official visitors in 1965:

2-9-65	Messrs. Art Hughlett Gene Crawford John Sincock Royston Rudolph	Survey Team Minneapolis " " Washington " " Patuxent Asst. Regional Atlanta Supervisor	Inspection " " "
4-12-65	Mr. Robert Bain Mr. Warren Lupton	G.M.A. Richmond, Va., G.M.A. Atlanta, Georgia	Cooperation Cooperation
5-11-65	Messrs. Howard MacCord Ed Heite	Archeological Society, Richmond, Va.,	Research
6-3-65	Messrs. David Hall William R. Kensinger	Asst. Ref. Mgr. Chincoteague NWR G.M.A. Maryland	Orientation "
10-23-65	Mr. Joe Bellamy	Game Warden, Va.,	Cooperation
10-25-65	Mr. Don Hankla	R.O. Atlanta	Inspection
11-8-65	Mr. Ross McKinsey	Richmond News Leader	News article
11-9-65	Mr. Bill Good	Pea Island NWR Manteo, N.C.	Equipment Transfer
12-10-65	Mr. Don Pfitzer	R.O. Atlanta	Orientation
12-28-65	Mr. John Fields	Asst. Ref. Mgr.-Back Bay	"

C. Refuge Participation

Participation by refuge personnel in civic and conservation affairs has been rather limited this year. Only four talks were made and one film shown. At least four contacts were made with area news media relative to refuge operations; however, only two articles were published.

D. Hunting

Deer hunting around the refuge was relatively insignificant and deer hounds swam onto the refuge only on two occasions.

Waterfowl hunting has been widespread throughout the area. There has not been opportunity to do a thorough investigation of hunter success but the results of the Varina Sportsmens Club (Curles Neck Marsh) are known and are indicative of the hunting activities in this general area. The goose kill this year was 111 as compared with 199 in 1964 and 300 in 1963. The decline in numbers bagged is due primarily to the technique of hunting. Until this year the hunters would line up along the river bank and shoot the birds as they crossed a narrow neck of woods between Curles Neck marsh and the river. In this type of hunting much "sky busting" was done and many birds were crippled down only to be taken by predators. At least 30 were known lost each year from this club alone. We are pleased to report that this method of hunting is no longer employed and as a result, only two birds were known to have fallen in the river.

Duck kills were also down somewhat, approximately 40%. Most of the hunters contacted attribute the decline in birds bagged to the weather. Inclement weather, apparently preferred by the hunters, was not experienced throughout the duck season. Best reports indicate that species composition of birds bagged was: black 60%, mallard 20%, with widgeon, pintails, and green winged teal comprising the majority of the other 20%.

E. Violations

Military helicopters from the Naval Air Station at Norfolk, Virginia, and small aircraft from Richmond, Virginia airports made several harassing passes at waterfowl at various times throughout the year. Letters to the proper authorities seem to have solved the problem.

No formal cases were made by refuge personnel during the year.

F. Safety

Only seven formal safety meetings were held during the year. During much of the year (and particularly those months during which no formal meetings were held) only two male employees were on official duty status and safety aspects were discussed as they were encountered.

During the year some 5,184 accident free employee hours were worked. This brings the total hours worked without a lost time accident to 60,400.

VII. OTHER ITEMS

A. Items of Interest

Former manager James Roberts departed this station on October 28th. The present manager E.O.D. on October 25 and will, during January 1966, transfer to Yazoo N W R. The new manager, John Fields, will E.O.D. January 26. Presquile will then have been host to three managers withing a period of three months.

B. Photographs

Presquile is in dire need of good photographic equipment. The only camera here was in repair twice during the year. Subsequently not many pictures were taken during the first three quarters of the year.

C. Signature

Submitted By:

Earl R. Cunningham
Earl R. Cunningham
Refuge Manager

Dated January 25, 1966

Approved by:

Victor W. King
Regional Office

Acting Regional Supervisor

FEB 18 1966

"Some came running"



...some came by water,





...some take the overland trail

...still others go the
marsh trail...



but one thing is certain - at the end of every trail, there's a hole in the "deer" fence that leads to the refuge corn crop.



Eastern red cedar is another favorite of the Presquile deer. There's hardly a cedar on the island that doesn't vividly exhibit a browse line.



Little creek is clogged with a profusion of trees and stumps which have fallen in the creek after the soil was eroded away from their roots by tidal action. Here, the creek is being cleared of these trees.



Replacing the ferry cable. This is a "three times a year" job costing more than \$1000 annually.

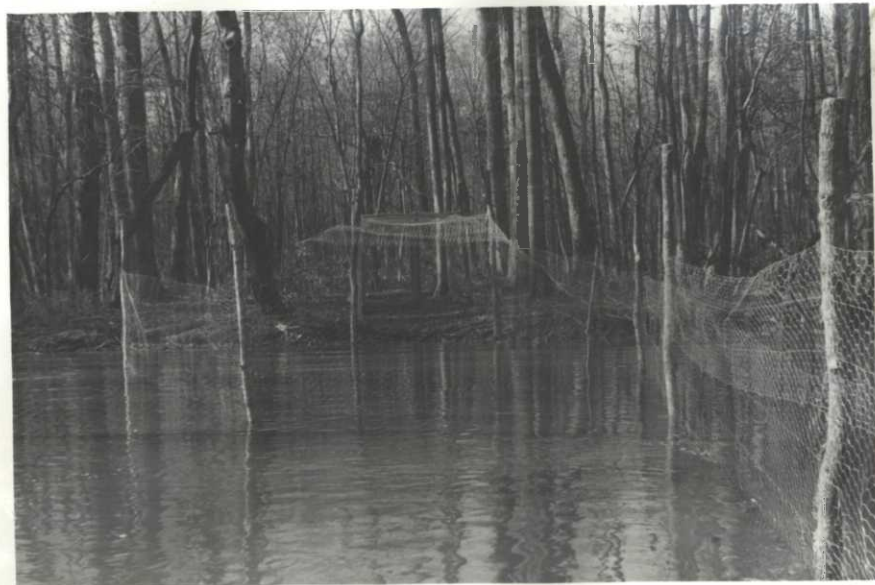




Three large duck traps were constructed during November - December. Here, Maintenceman McFarland and laborer position posts for leads to traps.



Except for a funnel, this trap is ready for post-season duck trapping.



This observation blind is one of four erected for photographing waterfowl.



The Appomattox River bridge, just north of Hopewell on route #10 is a draw bridge, and traffic (enroute to refuge from Hopewell office) frequently is tied up for extensive periods.



A new bridge now under construction (scheduled for completion in 1966) will alleviate this problem.





An aerial view of Presquile Island. The origin of this photograph is not known - it was copied from an original in the refuge office. The quality of the copy is poor, but it depicts the farm area (left center), the east marsh (right center) the hardwood swamp (northern 2/3 of the island) and Curles Neck marsh immediately across the river in the extreme left center. Curles Neck marsh, although in private ownership, provides an invaluable supplement to Presquile's waterfowl habitat.

(Rev. March 1953)

WATERFOWL

REFUGE Presquile N W R

MONTHS OF January TO April, 1965

	(1)	(2) Weeks of reporting period								
Species	:	:	:	:	:	:	:	:	:	:
	: 1 :	: 2 :	: 3 :	: 4 :	: 5 :	: 6 :	: 7 :	: 8 :	: 9 :	: 10 :
Swans:										
Whistling Trumpeter										
Geese:										
Canada	8000	7000	7000	7000	6000	6000	5000	5000	3500	3500
Cackling Brant										
White-fronted Snow	15	15	15	15	15	15	15			
Blue Other	90	90	90	75	75	50	25			
Ducks:										
Mallard	4000	4000	2500	1500	1500	1000	500	500	300	300
Black Gadwall	3500	3500	2000	2000	2000	2000	1500	500	500	500
Baldpate	20									
Pintail	6									
Green-winged teal	1500	1500	2000	1000	1000	200	500	1000	400	500
Blue-winged teal									100	
Cinnamon teal										
Shoveler	29									
Wood Redhead	300	300	500	300	300	100	100	100	100	100
Ring-necked Canvasback										
Scaup Goldeneye										
Bufflehead Ruddy	25	25	25	50	50				20	
Other Hooded Merganser										
Common "	4									
COOT	135 300	135	135	200	200	200	200	200	100	200

3-1750a
 Cont. NR-1
 (Rev. March 1953)

WATERFOWL
 (Continuation Sheet)

REFUGE

Presquile NWR

MONTHS OF January TO April, 1965

(1) Species	(2) Weeks of reporting period								(3) Estimated waterfowl: days use	(4) Production: Broods: Estimated seen: total
	11	12	13	14	15	16	17	18		
Swans:										
Whistling										
Trumpeter										
Geese:										
Canada	4000	2000	300						450,100	
Cackling										
Brant										
White-fronted										
Snow									735	
Blue									3,465	
Other										
Ducks:										
Mallard	500								116,193	
Black	200								127,435	
Gadwall									140	
Baldpate									42	
Pintail	300								69,300	
Green-winged teal									700	
Blue-winged teal										
Cinnamon teal										
Shoveler									203	
Wood	100								16,093	
Redhead										
Ring-necked										
Canvasback										
Scaup										
Goldeneye										
Bufflehead	200								1,540	
Ruddy	100								1,932	
Other										
Hooded Merganser									28	
Common	200								13,321	
Coot:									2,100	

(Over)

	(5) Total Days Use	:	(6) Peak Number	:	(7) Total Production
Swans		:		:	
Geese	454,300	:	8,105	:	
Ducks	49,559	:	9,519	:	
Coots	2,100	:	300	:	

SUMMARY

Principal feeding areas Refuge fields, mud flats, marsh
and swamp areas and adjacent private fields, marshes and
swamps.
 Principal nesting areas 1000 acres tidal marsh and hardwood
swamp.

Reported by _____

James H. Roberts

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

- (1) Species In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.
- (2) Weeks of Reporting Period: Estimated average refuge populations.
- (3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.
- (4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (5) Total Days Use: A summary of data recorded under (3).
- (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.
- (7) Total Production: A summary of data recorded under (4).

(Rev. March 1953)

WATERFOWL

19 65

[illegible]

3-1750a

Cont. NR-1

(Rev. March 1953)

WATERFOWL (Continuation Sheet)

REFUGE

MONTHS OF May TO August, 1965Presquile NWR

(1) Species	(2) Weeks of reporting period								(3) Estimated: waterfowl: days use	(4) Production: Broods: seen : total
	11	12	13	14	15	16	17	18		
<u>Swans:</u>										
Whistling										
Trumpeter										
<u>Geese:</u>										
Canada										
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
<u>Ducks:</u>										
Mallard										
Black										
Gadwall										
Baldpate										
Pintail										
Green-winged teal										
Blue-winged teal										
Cinnamon teal										
Shoveler										
Wood	100	100	100	150	150	200	200	200	13,230	66 100
Redhead										
Ring-necked										
Canvasback										
Scaup										
Goldeneye										
Bufflehead										
Ruddy										
Other										
<u>Coot:</u>										
					(Over)					

	(5) Total Days Use	:	(6) Peak Number	:	(7) Total Production		SUMMARY
Swans	_____	:	_____	:	_____	Principal feeding areas	1000 acres hardwood swamp, marsh and x
Geese	_____	:	_____	:	_____	river shore.	_____
Ducks	13,230	:	200	:	100	Principal nesting areas	800 acre hardwood swamp
Coots	_____	:	_____	:	_____		_____
						Reported by	James H. Roberts

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

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- (2) Weeks of Reporting Period: Estimated average refuge populations.
- (3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.
- (4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (5) Total Days Use: A summary of data recorded under (3).
- (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.
- (7) Total Production: A summary of data recorded under (4).

3-1750
Form NR-1
(Rev. March 1953)

W A T E R F O W L

REFUGE Presquile

MONTHS OF September TO December, 1965

(1) Species	(2) Weeks of reporting period									
	1	2	3	4	5	6	7	8	9	10
Swans:										
Whistling										
Trumpeter										
Geese:										
Canada				200	250	1500	2000	3000	3200	4000
Cackling										
Brant										
White-fronted										
Snow						13	12	12	12	12
Blue							15	15	20	20
Other										
Ducks:										
Mallard				50	100	300	200	400	500	800
Black				100	300	500	500	600	700	1000
Gadwall							12	20	10	10
Baldpate										
Pintail						200	200	200	100	100
Green-winged teal							100	100	50	
Blue-winged teal						50		25	20	
Cinnamon teal										
Shoveler							50	25	15	
Wood				50	100	500	500	500	500	1500
Redhead										
Ring-necked										
Canvasback										
Scaup										
Goldeneye										
Bufflehead									2	6
Ruddy										75
Other Old Squaw									10	
Mottled Merganser									4	25
<u>Coot:</u>							10	50	100	100

3-1750a

Cont. NR-1

(Rev. March 1953)

WATERFOWL

(Continuation Sheet)

REFUGE PresquileMONTHS OF September TO December, 1965

(1) Species	(2) Weeks of reporting period								(3) Estimated: Production		(4) waterfowl: Broods: Estimated	
	11	12	13	14	15	16	17	18	days use	seen	total	
Swans:							(6 days)					
Whistling												
Trumpeter												
Geese:												
Canada	5600	6600	8245	8400	8550	8500	8600		471	915		
Cackling												
Brant						1			2			
White-fronted												
Snow	13	30	30	20	20	20	22		1,525			
Blue	40	100	100	100	120	120	120		5,270			
Other												
Ducks:												
Mallard	1000	1400	2000	1200	1400	1500	1900		87,350			
Black	1300	1500	1200	1600	1800	1800	2100		102,900			
Gadwall							8		412			
Baldpate				50	250	200	50		3,860			
Pintail	50	50			200	300	300		11,600			
Green-winged teal									1,750			
Blue-winged teal									655			
Cinnamon teal												
Shoveler									630			
Wood	1600	1600	1600	1400	1200	1200	1550		95,050			
Redhead				12	12				188			
Ring-necked		6	6	20	20		2		376			
Canvasback												
Scaup												
Goldeneye												
Bufflehead		9	6						161			
Ruddy	125	200	250	200	200	150	30		8,500			
Other Old Squaw									70			
Hooded Merganser	20	25	25			25			968			
Coot:	50	100		40			4		3,174			
C. Merganser			40		30	30	70		1,120			
Red breasted Merr.					(Over)	25	36		391			

	(5)	(6)	(7)
	Total Days Use	Peak Number	Total Production
Swans			
Geese	473,712	8600	
Ducks	315,951	6056	
Coots	3,174	100	

SUMMARY

Principal feeding areas ~~Refuge farm fields, north and east~~

~~marshes, Little and Deep Creeks.~~

Principal nesting areas

Reported by Earl R. Cunningham
Earl R. Cunningham, Refuge Manager

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

- (1) Species In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.
- (2) Weeks of Reporting Period: Estimated average refuge populations.
- (3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.
- (4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (5) Total Days Use: A summary of data recorded under (3).
- (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.
- (7) Total Production: A summary of data recorded under (4).

3-1751

Form NR-1A

(Aug. 1952)

MIGRATORY BIRDS
(Other than Waterfowl)

Refuge Presquile NWRMonths of Januaryto April1965

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Inclusive Dates	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Use
I. <u>Water and Marsh Birds:</u>										
Great Blue Heron	17	1/3	21	4/2	20	4/30	None observed			20
American Egret	9	1/3	12	4/2	2	4/30	"	"		10
Snowy Egret	None observed.									
Little Blue Heron	"	"								
Little Green Heron	"	"								
Louisiana Heron	"	"								
II. <u>Shorebirds, Gulls, and Terns:</u>										
Ring Billed Gull	100	1/3	500	4/7	200	4/30	None observed			300
Herring Gull	10	1/3	50	4/7	20	4/30	"	"		50

(over)

(1)	(2)	(3)	(4)	(5)	(6)
III. <u>Doves and Pigeons:</u> Mourning dove White-winged dove					
IV. <u>Predaceous Birds:</u> Golden eagle Duck hawk Horned owl Magpie Raven Crow					

Reported by

INSTRUCTIONS (See Sec. 7532, Wildlife Refuges Field Manual)

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)
II. Shorebirds, Gulls and Terns (Charadriiformes)
III. Doves and Pigeons (Columbiformes)
IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)
- (2) First Seen: The first migration record for the species for the reporting period.
- (3) Peak Numbers: Estimated number and inclusive dates when peak population of the species occurred.
- (4) Last Seen: The last refuge record for the species during the season concerned.
- (5) Production: Estimated number of young produced based on observations and actual counts.
- (6) Total: Estimated species days use (average population X no. days present) of refuge during the reporting period

3-1751
Form NR-1A
(Aug. 1952)

MIGRATORY BIRDS
(Other than Waterfowl)

Refuge Presquile NATIONAL Wildlife

Months of May

to August

1965

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Inclusive Dates	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Use
I. <u>Water and Marsh Birds:</u>										
G. Blue Heron	10	5/1	47	8/20	17	8/30	None observed.			2,520
American Egret	16	5/1	29	8/20	21	8/30	None observed.			2,520
Little Green Heron	1	8/20	1	8/20	1	8/20	None observed.			252
II. <u>Shorebirds, Gulls, and Terns:</u>										
Ring Billed Gull	100	5/1	200	7/17	200	8/30	None observed.			25,200
Herring Gull	50	5/1	50	5/1	9	8/30	None observed.			6,300

(over)

(1)	(2)	(3)	(4)	(5)	(6)				
III. <u>Doves and Pigeons:</u> Mourning dove White-winged dove	250	5/1	2000	6/5	200	8/30	100	300	126,000
IV. <u>Predaceous Birds:</u> Golden eagle Duck hawk Horned owl Magpie Raven Crow									
	15	5/1	20	6/1	10	8/30	None observed.		2,520
Bald Eagle	1	5/1	2	7/17	1	8/20	None observed.		252

Reported by

INSTRUCTIONS (See Sec. 7532, Wildlife Refuges Field Manual)

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)
II. Shorebirds, Gulls and Terns (Charadriiformes)
III. Doves and Pigeons (Columbiformes)
IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)
- (2) First Seen: The first migration record for the species for the reporting period.
- (3) Peak Numbers: Estimated number and inclusive dates when peak population of the species occurred.
- (4) Last Seen: The last refuge record for the species during the season concerned.
- (5) Production: Estimated number of young produced based on observations and actual counts.
- (6) Total: Estimated species days use (average population X no. days present) of refuge during the reporting period.

3-1751
Form NR-1A
(Aug. 1952)

MIGRATORY BIRDS
(Other than Waterfowl)

Refuge PRESQUITE Months of September to December 19 65

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Inclusive Dates	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Use
I. <u>Water and Marsh Birds:</u>										
Great Blue Heron	8	Oct. 20-30	30	Nov	15	Dec.				2,500
American Egret	3	" "	6	"	2	Dec.27				200
Wilson's Snipe	6	Nov.30	200	Dec.31	200	Dec.31				6,000
II. <u>Shorebirds, Gulls, and Terns:</u>										
Ring-billed Gull • Herring Gull •	At least 800 ring billed and herring gulls pass daily up the James River in the early morning and down again in the late afternoons. Although only about 20% of this number are ever on the refuge waters at any given time, they do pass over the area daily. The ratio of ring billed to herring gulls is about 9:1									
										12,000
Killdeer	40	Sept.1	75	Dec.	60	Dec.27				7,000

(over)

(1)	(2)	(3)	(4)	(5)	(6)
III. Doves and Pigeons: Mourning dove White-winged dove	200 Sept. 1	300 Dec. 1-15	150 Dec. 30	No nests observed	8,000
IV. Predaceous Birds: Golden eagle Duck hawk Horned owl Magpie Raven Crow American Eagle	150 4 Present throughout period Oct. 1	6* Dec. 27	4 Dec. 27		18,000 400
	* observed near refuge.				

Reported by **Earl R. Cunningham**

INSTRUCTIONS (See Sec. 7532, Wildlife Refuges Field Manual)

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)
II. Shorebirds, Gulls and Terns (Charadriiformes)
III. Doves and Pigeons (Columbiformes)
IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)
- (2) First Seen: The first migration record for the species for the reporting period.
- (3) Peak Numbers: Estimated number and inclusive dates when peak population of the species occurred.
- (4) Last Seen: The last refuge record for the species during the season concerned.
- (5) Production: Estimated number of young produced based on observations and actual counts.
- (6) Total: Estimated species days use (average population X no. days present) of refuge during the reporting period.

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE
WATERFOWL UTILIZATION OF REFUGE HABITAT

Refuge Presquile NWR For 12-month period ending August 31, 1965

Reported by James H. Roberts Title Refuge Manager

(1)	(2)	(3)	(4)	(5)
Area or Unit	Habitat		Breeding	
Designation	Type Acreage	Use-days	Population	Production
	Crops 250	Ducks 756,343	50	100
	Upland 70	Geese 982,184		
	Marsh 250	Swans		
	Water 1629	Coots 4,704		
	Total 2199	Total		
	Crops	Ducks		
	Upland	Geese		
	Marsh	Swans		
	Water	Coots		
	Total	Total		
	Crops	Ducks		
	Upland	Geese		
	Marsh	Swans		
	Water	Coots		
	Total	Total		
	Crops	Ducks		
	Upland	Geese		
	Marsh	Swans		
	Water	Coots		
	Total	Total		
	Crops	Ducks		
	Upland	Geese		
	Marsh	Swans		
	Water	Coots		
	Total	Total		
	Crops	Ducks		
	Upland	Geese		
	Marsh	Swans		
	Water	Coots		
	Total	Total		
	Crops	Ducks		
	Upland	Geese		
	Marsh	Swans		
	Water	Coots		
	Total	Total		

(over)

INSTRUCTIONS

All tabulated information should be based on the best available techniques for obtaining these data. Estimates having no foundation in fact must be omitted. Refuge grand totals for all categories should be provided in the spaces below the last unit tabulation. Additional forms should be used if the number of units reported upon exceeds the capacity of one page. This report embraces the preceding 12-month period, NOT the fiscal or calendar year, and is submitted annually with the May-August Narrative Report.

- (1) Area or Unit: A geographical unit which, because of size, terrain characteristics, habitat type and current or anticipated management practices, may be considered an entity apart from other areas in the refuge census pattern. The combined estimated acreages of all units should equal the total refuge area. A detailed map and accompanying verbal description of the habitat types of each unit should be forwarded with the initial report for each refuge, and thereafter need only be submitted to report changes in unit boundaries or their descriptions.
- (2) Habitat: Crops include all cultivated croplands such as cereals and green forage, planted food patches and agricultural row crops; upland is all uncultivated terrain lying above the plant communities requiring seasonal submergence or a completely saturated soil condition a part of each year, and includes lands whose temporary marsh extends from the upland community to, but not including, the water type and consists of the relatively stable marginal or shallow-growing emergent vegetation type, including wet meadow and deep marsh; and in the water category are all other water areas inundated most or all of the growing season and extending from the deeper edge of the marsh zone to strictly open-water, embracing such habitat as shallow playa lakes, deep lakes and reservoirs, true shrub and tree swamps, open flowing water and maritime bays, sounds and estuaries. Acreage estimates for all four types should be computed and kept as accurate as possible through reference to available maps supplemented by periodic field observations. The sum of these estimates should equal the area of the entire unit.
- (3) Use-days: Use-days is computed by multiplying weekly waterfowl population figures by seven, and should agree with information reported on Form NR-1.
- (4) Breeding Population: An estimate of the total breeding population of each category of birds for each area or unit.
- (5) Production: Estimated total number of young raised to flight age.

3-1752
Form NR-2
(April 1946)

UPLAND GAME BIRDS

Refuge Presquile NWR

Months of January

to April, 19 65

Form NR-2 - UPLAND GAME BIRDS

(1) Species	(2) Density	(3) Young Produced	(4) Sex Ratio	(5) Removals	(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'd. Estimated Total	Hunting For Re- stocking For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Bobwhite Quail	Field borders and swamp edge. (300 acres)	7	none observed	1-1	no removal	40
Wild Turkey	Entire island (1329 acres)	130	none observed	2 males 1 female	no removals	10
						Turkey population intermittent, shared with adjacent areas.

* Only columns applicable to the period covered should be used

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.*

- (1) SPECIES: Use correct common name.
- (2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
- (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
- (5) REMOVALS: Indicate total number in each category removed during the report period.
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

* Only columns applicable to the period covered should be used.

3-1752
Form NR-2
(April 1946)

UPLAND GAME BIRDS

Refuge Presquile NWR

Months of May

to August, 1965

Form NR-2 - UPLAND GAME BIRDS

(1) Species	(2) Density	(3) Young Produced	(4) Sex Ratio	(5) Removals	(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'd. Estimated Total	Hunting For Re- stocking For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Bob White Quail	Field border and swamp edge. (300 acres)	10	9	15	1-1	30
Wild Turkey	Entire Island (1329) acres	130	3	3	2 Male 1 Female	10
Turkey population intermittent, and shared with adjacent areas.						

* Only columns applicable to the period covered should be used.

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.*

- (1) SPECIES: Use correct common name.
- (2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
- (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
- (5) REMOVALS: Indicate total number in each category removed during the report period.
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

* Only columns applicable to the period covered should be used.

UPLAND GAME BIRDS

Refuge Presquile

Months of September

to December, 1965

(1) Species	(2) Density	(3) Young Produced	(4) Sex Ratio	(5) Removals	(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'd. Estimated Total	Hunting For Re- stocking For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Wild Turkey	1329 acres Marsh, hardwood swamp, and agri- cultural fields.	100	No observations	3M:2F	None	14
Bob-white quail	320 acres agricultural fields plus swamp edge.	8	None observed	1M:1F	None	40

* Only columns applicable to the period covered should be used.

INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.*

- (1) SPECIES: Use correct common name.
- (2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
- (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
- (5) REMOVALS: Indicate total number in each category removed during the report period.
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

* Only columns applicable to the period covered should be used.

3-1753
Form NR-3
(June 1945)

BIG GAME

Refuge prossville

Calendar Year 1965

(1) Species	(2) Density	(3) Young Produced	INSTRUCTIONS				(5) Losses	(6) Introductions	(7) Estimated Total Refuge Population	(8) Sex Ratio				
Common Name	Cover types, total Acreage of Habitat	Number	Hunting	For Re- stocking	Sold	For Research	Predation	Disease	Winter Loss	Number	Source	At period of Greatest use	As of Dec. 31	
White tailed deer	700 acres hardwood swamp, 250 acres tidal marsh, 300 acres agricultural	40										200	200	M:2F
(1) SPECIES: Use correct common name; if necessary to indicate subspecies, use Latin name in parentheses.														
(2) DENSITY: Indicate the number of animals in each cover type. This information is to be prepared by a survey method used and size of sample area.														
(3) YOUNG PRODUCED: Indicate total number of young produced on refuge.														
(4) REMOVALS: Indicate total number in each category removed during the year.														
(5) LOSSES: On the basis of known records or reliable estimates indicate total losses in each category during the year.														
(6) INTRODUCTIONS: Indicate the number and refuge or agency from which stock was secured.														
(7) TOTAL REFUGE POPULATION: Give the estimated population of each species on the refuge at period of its greatest abundance and also as of Dec. 31.														
(8) SEX RATIO: Indicate the percentage of males and females of each species as determined from field observations or through removals.														

Remarks: At least 125 animals have been counted simultaneously in 300 acres of agricultural crops. It is probable that more than 75 animals were present at the time on the other 1000 acres. The 200 figure is probably conservative.

17060

Reported by

Earl R. Cunningham

Earl R. Cunningham

INSTRUCTIONS

(1) Species	(2) Density	(3) Young Produced	(4) Removals	(5) Losses	(6) Introductions	(7) Estimated Population	(8) Sex Ratio
<p>(1) SPECIES: Use correct common name; i.e., Mule deer, black-tailed deer, white-tailed deer. It is unnecessary to indicate sub-species such as northern or Louisiana white-tailed deer.</p> <p>(2) DENSITY: Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge: once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.</p> <p>(3) YOUNG PRODUCED: Estimated total number of young produced on refuge.</p> <p>(4) REMOVALS: Indicate total number in each category removed during the year.</p> <p>(5) LOSSES: On the basis of known records or reliable estimates indicate total losses in each category during the year.</p> <p>(6) INTRODUCTIONS: Indicate the number and refuge or agency from which stock was secured.</p> <p>(7) TOTAL REFUGE POPULATION: Give the estimated population of <u>each species</u> on the refuge at period of its greatest abundance and also as of Dec. 31.</p> <p>(8) SEX RATIO: Indicate the percentage of males and females of each species as determined from field observations or through removals.</p>							

Remarks: At least 125 animals have been counted simultaneously in 30 acres of agricultural crops. It is probable that more than 75 animals were present at the time on the other 1000 acres. The 400 figure is probably conservative.

3-1754
Form NR-4
(June 1945)

SMALL MAMMALS

Refuge Presquile NWR

Year ending April 30, 1965

(1) Species	(2) Density	(3) Removals						(4) Disposition of Furs					(5) Total Popula- tion	
Common Name	Cover Types & Total Acreage of Habitat	Acres Per Animal	Hunting	Fur Harvest	Predator Control *	For Re- stocking	For Re- search	Share Trapping			Total Refuge Furs Shipped	Furs Donated	Furs Destroyed	
								Permit Number	Trappers Share	Refuge share				
Raccoon	1,329	5												260
Muskrat	Marsh, river & creek bank.(600 acres)	6			"					" "				100
Stripped skunk	Fields and borders. (300 acres)	5			"					" "				60
Grey Squirrel	Hardwood swamp. (800 acres)	10												80
Ground Hog	Fields, borders and river banks. (300 acres)	6			50*									50
Red Fox	1,329	133												10
Cottontail	Fields & borders (300 Acres)	3												100
Rabbit														
Beaver	Tidal Marsh and hardwood swamp (1000 acres)	25												4
* List removals by Predator Animal Hunter														

* List removals by Predator Animal Hunter

REMARKS: *Ground hogs removed by refuge personnel from field terraces, road banks etc. by use of Service Gas cartridge.

Reported by _____

INSTRUCTIONS

Form NR-4 - SMALL MAMMALS (Include data on all species of importance in the management program; i. e., muskrats, beaver, coon, mink, coyote. Data on small rodents may be omitted except for estimated total population of each species considered in control operations.)

- (1) SPECIES: Use correct common name. Example: Striped skunk, spotted skunk, short-tailed weasel, gray squirrel, fox squirrel, white-tailed jackrabbit, etc. (Accepted common names in current use are found in the "Field Book of North American Mammals" by H. E. Anthony and the "Manual of the Vertebrate Animals of the Northeastern United States" by David Starr Jordan.)
 - (2) DENSITY: Applies particularly to those species considered in removal programs. Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottom land hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
 - (3) REMOVALS: Indicate the total number under each category removed since April 30 of the previous year, including any taken on the refuge by Service Predatory Animal Hunter. Also show any removals not falling under headings listed.
 - (4) DISPOSITION OF FUR: On share-trapped furs list the permit number, trapper's share, and refuge share. Indicate the number of pelts shipped to market, including furs taken by Service personnel. Total number of pelts of each species destroyed because of unprime-ness or damaged condition, and furs donated to institutions or other agencies should be shown in the column provided.
 - (5) TOTAL POPULATION: Estimated total population of each species reported on as of April 30.
- REMARKS: Indicate inventory method(s) used, size of sample area(s), introductions, and any other pertinent information not specifically requested.

DISEASE

Refuge Praquile Year 19 65

Botulism NONE

Lead Poisoning or other Disease NONE

Period of outbreak _____

Period of heaviest losses _____

Losses:

	Actual Count	Estimated
(a) Waterfowl	_____	_____
(b) Shorebirds	_____	_____
(c) Other	_____	_____

Number Hospitalized	No. Recovered	% Recovered
(a) Waterfowl	_____	_____
(b) Shorebirds	_____	_____
(c) Other	_____	_____

Areas affected (location and approximate acreage) _____

Water conditions (average depth of water in sickness areas, reflooding of exposed flats, etc.) _____

Condition of vegetation and invertebrate life _____

Remarks _____

Kind of disease _____

Species affected _____

Number Affected Species	Actual Count	Estimated
_____	_____	_____
_____	_____	_____
_____	_____	_____

Number Recovered _____

Number lost _____

Source of infection _____

Water conditions _____

Food conditions _____

Remarks _____

PUBLIC RELATIONS

(See Instructions on Reverse Side)

Refuge Presquile NWRCalendar Year 1965

1. Visits

a. Hunting 0 b. Fishing 1,500 c. Miscellaneous 205 d. TOTAL VISITS 1,705

1a. Hunting (on refuge lands)

TYPE	HUNTERS	ACRES	MANAGED BY
Waterfowl	<u>None</u>		
Upland Game	<u>None</u>		
Big Game	<u>None</u>		
Other	<u>None</u>		

Number of permanent blinds NoneMan-days of bow hunting included above NoneEstimated man-days of hunting on lands adjacent to
refuge 150

1b. Fishing (area open to fishing on refuge lands)

TYPE OF AREA	ACRES	MILES
Ponds or Lakes		
Streams and Shores	<u>800</u>	<u>6</u>

1c. Miscellaneous Visits

Recreation 186 Official 19

Economic Use _____ Industrial _____

2. Refuge Participation (groups)

TYPE OF ORGANIZATION	On Refuge		Off Refuge	
	NO. OF GROUPS	NUMBER IN GROUPS	NO. OF GROUPS	NUMBER IN GROUPS
Sportsmen Clubs			<u>1</u>	<u>30</u>
Bird and Garden Clubs	<u>1</u>	<u>1</u>		
Schools				
Service Clubs				
Youth Groups (<u>Scouts</u>)	<u>4</u>	<u>175</u>		
Professional-Scientific	<u>1</u>	<u>2</u>		
Religious Groups	<u>1</u>	<u>13</u>		
State or Federal Govt.	<u>6</u>	<u>14</u>	<u>1</u>	<u>7</u>
Other <u>Civic</u>			<u>1</u>	<u>35</u>

3. Other Activities

TYPE	NUMBER	TYPE	NUMBER
Press Releases	<u>2</u>	Radio Presentations	
Newspapers (P.R.'s sent to)		Exhibits	
TV Presentations		Est. Exhibit Viewers	

3-1756

(Rev. 4/63)

INSTRUCTIONS

Item 1: Total of a, b, and c, equal d.

"Visit" - definition. Any person who is on refuge lands or waters during a day or part thereof for the purpose of: hunting, fishing, bird-watching, recreation, business or economic use, official visit, or similar interest. INCLUDE - those who stop within the refuge while traveling on a public highway because of an interest in the area. EXCLUDE - persons engaged in oil or other industry not directly related to the refuge, persons using refuge as most direct route or principal avenue of traffic, and those boating on navigable rivers or the Intercoastal Canal, unless they stop to observe wildlife on the refuge.

Computing visits. Where actual counts are impractical, "sampling" is used with midweek and week-end samples varied by season or weather. A conversion factor of 3.5 (of passengers per car) is used when accurate figures are not available. Each refuge will develop a conversion factor for boats based on range of usage. Count a camper once for each 24-hour period or fraction thereof.

Item 1a: Acres - of refuge open for each type of hunting.

Managed hunts require check in and out of hunters, issuance of permits, or assignment of blinds.

Other - INCLUDE crow, fox, and similar hunting.

Lands adjacent to refuge. Normally considered within 1 mile or less of boundary, unless established sampling procedures cover a wider area. For big game hunting, the distance may be greater.

Item 1b: Acres of streams open to fishing, if practical; otherwise just miles open. Information on "shores" is primarily for coastal fishing.

Item 1c: Recreation. INCLUDE photography, observing wildlife, picnicking, swimming, boating, camping, visitor center use, tours, etc. TOTAL Recreation, Official, and Economic Use visits under Item 1.

Industrial. INCLUDE persons engaged in industry, i.e., oil industry or factories. EXCLUDE these from Item 1.

Item 2: INCLUDE the "On Refuge" groups in Items 1c and 1. In "Off Refuge" column include only those group meetings in which refuge employees actually participate. EXCLUDE these from Items 1c and 1.

Item 3: Exhibits - INCLUDE displays, fairs, parades, and exhibits OFF the refuge; EXCLUDE those ON.

NONAGRICULTURAL COLLECTIONS, RECEIPTS, AND PLANTINGS

(1)

Refuge PERSONAL Year 19 65

- (1) Report agronomic farm crops on Form NR-8
- (2) C = Collections and R = Receipts
- (3) Use "S" to denote surplus

Marsh and aquatic _____
Hedgerows, cover patches _____
Food strips, food patches _____
Forest plantings _____

Remarks: Nothing to report.

3-1758
Form NR-8
(Rev. Jan. 1956)

Fish and Wildlife Service Branch of Wildlife Refuges

1965

CULTIVATED CROPS - HAYING - GRAZING

Refuge Presquile

County Chesterfield

State Virginia

Cultivated Crops Grown	Permittee's Share Harvested		Government's Share or Return				Total Acreage Planted	Green Manure, Cover and Water- fowl Browsing Crops Type and Kind	Total Acreage
	Acres	Bu./Tons	Harvested		Unharvested				
			Acres	Bu./Tons	Acres	Bu./Tons			
Funk's G-72 Hybrid corn			15*	300 bu	55	4,000 bu	70		70
Japanese Buckwheat								18 acres browse	18
Seneca Wheat			10	305 bu				70 acres browse	80
Common Ryegrass								25 acres overseeded browse	25
Ladino clover & 31 fescue								35 acres overseeded browse	35
								Permanent-fescue pasture	108
								Fallow Ag. Land	None

No. of Permittees: Agricultural Operations 0 Haying Operations 0 Grazing Operations 0

Hay - Improved (Specify Kind)	Tons Harvested	Acres	Cash Revenue	GRAZING	Number Animals	AUM'S	Cash Revenue	ACREAGE
None				1. Cattle	None			
				2. Other	None			
				1. Total Refuge Acreage Under Cultivation				257
Hay - Wild				2. Acreage Cultivated as Service Operation				

*Harvested after deer and geese utilized it throughout the winter.

DIRECTIONS FOR PREPARING FORM NR-8
CULTIVATED CROPS - HAYING - GRAZING

Report Form NR-8 should be prepared on a calendar-year basis for all crops which were planted during the calendar year and for haying and grazing operations carried on during the same period.

Separate reports shall be furnished for Refuge lands in each county when a refuge is located in more than one county or State.

Cultivated Crops Grown - List all crops planted, grown and harvested on the refuge during the reporting period regardless of purpose. Crops in kind which have been planted by more than one permittee or this Service shall be combined for reporting purposes.

Permittee's Share - Only the number of acres utilized by the permittee for his own benefit should be shown under the Acres column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the Bushels Harvested column. Report all crops harvested in bushels or fractions thereof except such crops as silage, watermelons, cotton, tobacco, and hay, which should be reported in tons or fractions thereof.

Government's Share or Return - Harvested - Show the acreage and number of bushels harvested for the Government of crops produced by permittees or refuge personnel. Unharvested - Show the exact acreage and the estimated number of bushels of grain available for wildlife. If grazing is made available to waterfowl through the planting of grain, cover, green manure, grazing or hay crops, estimate the tonnage of green food produced or utilized and report under Bushels Unharvested column.

Total Acreage Planted - Report all acreage planted, including crop failures.

Green Manure, Cover and Waterfowl Grazing Crops - Specify the acreage, kind and purpose of the crop. These crops and the acreage may be duplicated under cultivated crops if planted during the year, or a duplication may occur under hay if the crop results from a perennial planting.

Hay - Improved - List separately the kinds of improved hay grown. Annual plantings should also be reported under Cultivated Crops, and perennial hay should be listed in the same manner at time of planting.

Total Refuge Acreage Under Cultivation - Report total land area devoted to agricultural purposes during the year.

REFUGE GRAIN REPORT

Refuge Presquile

Months of January through December, 1965

(1) VARIETY*	(2) ON HAND BEGINNING OF PERIOD	(3) RECEIVED DURING PERIOD	(4) TOTAL	(5) GRAIN DISPOSED OF				(6) ON HAND END OF PERIOD	(7) PROPOSED OR SUITABLE USE*		
				Transferred	Seeded	Fed	Total		Seed	Feed	Surplus
Seneca Wheat	0	305 bu	305 bu	150 bu	90 bu	65 bu *	305 bu	0			
Common Ryegrass	0	1250 lbs	1250 lbs		1250 lbs		1250 lbs	0			
Corn	195 bu	472 bu	667 bu		12 bu	400 bu*	412 bu	255 bu		255 bu	
Japanese Buckwheat	0	1200 lbs	1200 lbs		1200 lbs		1200 lbs	0			
Ky 31-fescue	0	500 lbs	500 lbs		500 lbs		500 lbs	0			
Ladino Clover	0	100 lbs	100 lbs		100 lbs		100 lbs	0			

(8) Indicate shipping or collection points H opewell, Virginia

(9) Grain is stored at Refuge grainery

(10) Remarks * used for bait in dove and waterfowl banding operations.

*See instructions on back.

REFUGE GRAIN REPORT

This report should cover all grain on hand, received, or disposed of, during the period covered by this narrative report.

Report all grain in bushels. For the purpose of this report the following approximate weights of grain shall be considered equivalent to a bushel: Corn (shelled)—55 lb., corn (ear)—70 lb., wheat—60 lb., barley—50 lb., rye—55 lb., oats—30 lb., soy beans—60 lb., millet—50 lb., cowpeas—60 lb., and mixed—50 lb. In computing volume of granaries, multiply the cubic contents (cu. ft.) by 0.8 bushels.

- (1) List each type of grain separately and specifically, as flint corn, yellow dent corn, square deal hybrid corn, garnet wheat, red May wheat, durum wheat, spring wheat, proso millet, combine milo, new era cowpeas, mikado soy beans, etc. Mere listing as corn, wheat, and soybeans will not suffice, as specific details are necessary in considering transfer of seed supplies to other refuges. Include only domestic grains; aquatic and other seeds will be listed on NR-9.
- (3) Report all grain received during period from all sources, such as transfer, share cropping, or harvest from food patches.
- (4) A total of columns 2 and 3.
- (6) Column 4 less column 5.
- (7) This is a proposed break-down by varieties of grain listed in column 6. Indicate if grain is suitable for seeding new crops.
- (8) Nearest railroad station for shipping and receiving.
- (9) Where stored on refuge: "Headquarters granary," etc.
- (10) Indicate here the source of grain shipped in, destination of grain transferred, data on condition of grain, unusual uses proposed.

3-1759
Form NR-9
(April 1946)

COLLECTIONS AND RECEIPTS OF PLANTING ☐ CK
(Seeds, rootstocks, trees, shrubs)

Refuge Presquile Year 19 65

Species	Collections				Receipts		Total Amounts on Hand	Amount Surplus
	Amount	Date or Period of Collection	Method	Unit Cost	Amount	Source		
None								

3-1761
Form NR-11
(2/46)

TIMBER REMOVAL

Refuge.....Presquile..... Year 1965

Permittee	Permit No.	Unit or Location	Acreage	No. of Units Expressed in B. F., ties, etc.	Rate of Charge	Total Income	Reservations and/or Diameter Limits	Species Cut
None								

Total acreage cut over..... Total income.....

No. of units removed B. F. Method of slash disposal.....
Cords.....
Ties.....
.....

ANNUAL REPORT OF PERSTICIDE APPLICATION

Presquille
Proposal Number Reporting Year

INSTRUCTIONS: Wildlife Refuges Manual, secs. 3252d, 3394b and 3395.

Date(s) of Application	List of Target Pest(s)	Location of Area Treated	Total Acres Treated	Chemical(s) Used	Total Amount of Chemical Applied	Application Rate	Carrier and Rate	Method of Application
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
May 25- June 1	Jimson Weed and Johnson Grass	Refuge fields #2 and 5	40	Atrazine	135 lbs. (80%)	2.7 lbs A.E./A	water 40 gals/a	Commerci- ally applied side dressed

10. Summary of results (continue on reverse side, if necessary) Plans were to apply Atrazine with liquid nitrogen prior to planting corn. Drought conditions delayed planting of corn - hence delay of Atrazine. It was ultimately applied after corn was up and growing. Application was made by commercial vendor as side dressing simultaneously with nitrogen application, but with different carrier from separate tanks. Control of target pests was 90% complete - cost was \$9.00/acre.